**FIG. 1**

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FIG. 2

(SEQ ID NO: 1)

Human Glycoprotein Hormones α -Subunit

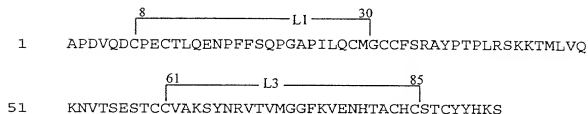


FIG. 3

(SEQ ID NO: 2)

Human Thyroid Stimulating Hormone (TSH)

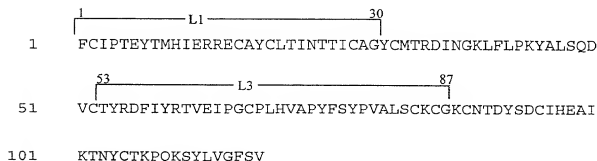
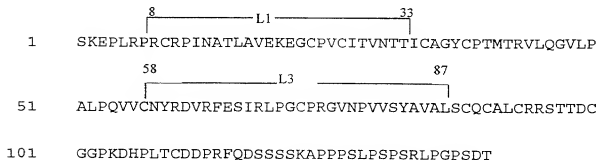


FIG. 4

(SEQ ID NO: 3)

Human Chorionic Gonadotropin (CG)



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FIG. 5

(SEQ ID NO: 4)

Human Luteinizing Hormone (LH)

1 8 L1 33
SREPLRPWCHPINALAVEKEGCPVCITVNTTICAGYCPTMMRVLQAVLP
51 58 L3 87
PLPQVVCTYRDVRFESIRLPGCPRGVDPVVSFPVALSCRCGPCRRSTSDC
101 GGPKDHPLTCDHPQLSGLLFL

FIG. 6

(SEQ ID NO: 5)

Human Follicle Stimulating Hormone (FSH)

1 4 L1 27
NSCELNTITIAIEKEECRFCISINTWCAGYCYTRDLVYKDPARPKtCT
51 65 L3 81
FKELVYETVRVPGCAHHADSLYTPVATQCHCGKCDSDSTDCTVRGLGPS
101 YCSFGEMKE

FIG. 7

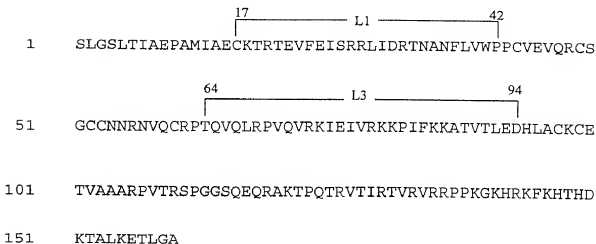
(SEQ ID NO: 6)

Human Platelet-Derived Growth Factor-A (PDGF A-Chain)

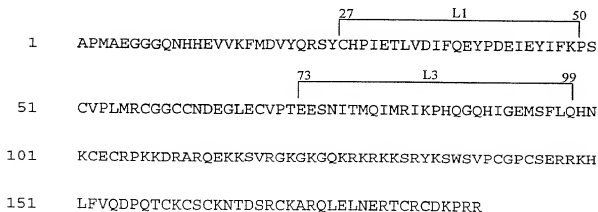
1 11 L1 36
SIEEAVPAVCKTRTVIYEIPRSQVDPTSANFLIWPPCVEVKRCTGCCNTS
51 58 L3 88
SVKQCQPSRVHHRSVKVAKVEYVRKKPKLKEVQVRLEEHLACATTSLN
101 DYREEDTGRPRESGKKRKRRLKPT

FIG. 8

(SEQ ID NO: 7)

Human Platelet-Derived Growth Factor-B (PDGF B-Chain)**FIG. 9**

(SEQ ID NO: 8)

Human Vascular Endothelial Growth Factor

(SEQ ID NO: 9)

1 SSSHPFIHRGEFSVCDSVSVVWGDKTTATDIKGKEVMVLGEVNNINSVFK
51 QYFFETKCRDPNPVDSGCRGIDSKHWSYCTTHTFVKAMLTDGKQAAR
101 FIRIDTACVCVLSRKAVRA

(SEQ ID NO: 10)

1 HSDPARRGELSVCDSEWVTAADKKTAVDMSSGGTVTVLEKVSVPVKGQLK
 51 QYFYETKCNPMGYTKEGCRGIDKRHWNSQCRTTQSYVRAMLTDSSKRIGW
 101 RFIRIDTSCVCILTIKRGR

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FIG. 12

(SEQ ID NO: 11)

Human Neurotrophin (NT)-3

1 YAEHKSHRGEYSVCDSESLWVTDKSSAIDIRGHQVTVLGEIGKTNSPVKQ
 51 YFYETRCKEARPVKNGCRGIDDRHWNSQCKTSQTYVRASLTENNKLVGWR
 101 WIRIDTSCVICALSRKIGRT

Diagram showing sequence positions: 15, 56, 80, 107, L1, L3.

FIG. 13

(SEQ ID NO: 12)

Human Neurotrophin (NT)-4

1 GVSETAPASRRGELAVCDAVSGWVTDRTAVDLRGREVEVLGEVPAAGGS
 51 PLRQYFFETRCKADNAEEGGPGAGGGGCRGVDRRHVWSECKAKQSYVRAL
 101 TADAQGRVGVWRWIRIDTACVCTLLSRTGRA

Diagram showing sequence positions: 18, 60, 91, 118, L1, L3.

FIG. 14

(SEQ ID NO: 13)

Human Transforming Growth Factor (TGF)-β1

1 ALDTNYCFSSTEKNCCVRQLYIDFRKDLGWKWIHEPKGYHANFCLGPCPY
 51 IWSLDTQYSKVLALYNQHNPASAAAPCCVPQALEPLPIVYYVGRKPKVEQ
 101 LSNMIVRSCKCS

Diagram showing sequence positions: 21, 40, 82, 102, L1, L3.

FIG. 15

Human Transforming Growth Factor (TGF)- β 2

1 ALDAAYCFRNVQDNCCRLPLYIDFKRD LGWKWIHEPKGYNANFCAGACPY
 21 L1 40
 51 LWSSDTQHSRVLSYNTINPEASAPCCVSQDLEPLTILYYIGKTPKIEQ
 82 L3
 101 LSNMIVKSKCS
 102

FIG. 16

Human Transforming Growth Factor (TGF)- β 3

1 ALDTNYCFRNLEENCCVRPLYIDFRQDLGWKVVHEPKGYIANFCSGPCPY
 51 LRSADTTHSTVLGLYNTLNPEASASPCCVQDLEPLTILYYVGRTPKVEQ
 101 LSNMVKSCCKS

FIG. 17

(SEQ ID NO: 16)

Human Transforming Growth Factor (TGF)- β 4

1 MWPLWLCWAL WVLPIAGPGA ALTEEQLLAS LLRQLQLSEV FVLDRADMEK
 51 LVIPAHVRAQ YVLLRRDGD RSRGKRFSQS FREVAGRFLA SEASTHLLVF
 101 GMEQRLPPNS ELVQAVLRLF QEPVPQGALH RHGRLSAAP KARVTVEWLV
 151 RDDGSNRTSL IDSRLVSVHE SGWKAPDVTE AVNFWQQLSR PPEPLLQVVS
 201 VQREHLGFLA SGAHKLVRFA SQGAPAGLGE PQLELHTLDL RDYGAQGDGD
 251 PEAPMTEGTR CCRQEMYIDL QGMKWAKNWV LEPPGFLAYE CVGTCQQPPE
 301 ALAFNWPFLG PRQCIASETA SLPMIVSIKE GGRTRPQVVS LPNMRVQKCS
 351 CASDGALVPR RLQHRPWCIIH

FIG. 18

(SEQ ID NO: 17)

Human Neurturin

1 MQRWAAAALA SVLCSSVLSI WMCREGLLLS HRLGPALVPL HRLPRTLDA
 51 IARLAQYRAL LQAPDAMEL RELTPWAGRP PGFRRRAGPR RRRARARLGA
 101 RPCGLRELEV RVSELGLGYA SDETVLFRYC AGACEAAARV YDLGLRRLRQ
 151 RRRLRRERVR AQPCCRPTAY EDEVSFLEDAH SRYHTVHEL ARECACV

FIG. 19

(SEQ ID NO: 18)

Human Inhibin α
(Common to Inhibin A and Inhibin B)

1 MVLHLLLFLL LTPQGGHSCQ GLELARELVL AKVRALFLDA LGPPAVTREG
 51 GDPGVRRLLPR RHALGGFTHR GSEPEEEEDV SQAILFPATD ASCEDKSAAR
 101 GLAQEAEEGL FRYMFRPSQH TRSRQVTSAQ LWFHTGLDRQ GTAASNSSEP
 151 LLGLLALSPG GPVAVPMSLG HAPPHWAVLH LATSALSLLT HPVLVLLLR
 201 PLCTCSARPE ATPFLVAHTR TRPPSGGERA RRSTPLMSWP WSPSALRLLQ
 251 RPPEEPAAHA NCHRVALNIS FOELGWERWI VYPPSFIFHY CHGGCGLHIP
 301 PNLSLPVPGA PPTPAQPYSL LPGAQPCCAA LPGTMRPLHV RTTSDGGYSE
 351 KYETVPNLLT QHCACI

FIG. 20

(SEQ ID NO: 19)

Human Inhibin A - β Subunit (α - β A Heterodimer)

1 MPLLWLRGFL LASCWIIIRS SPTPGSEGHS AAPDCPCSCAL AALPKDVPNS
 51 QPEMVEAVKK HILNMLHLKK RPDVTQVPVK AALLNAIRKL HVGKVGNGY
 101 VEIEDDIGRR AEMNELMBQT SEIITFAESG TARKTLHFEI SKEGSDLSVV
 151 ERAEVLWFLK VPKANRTRTK VTIRLFQQQK HPQGSGLDTGE EAEEVGLKGE
 201 RSELLLESEK VDARKSTWHV FVVSSSIQRL LDQGKSSLDV RIACEQCQES
 251 GASLVLLGKK KKKEEEGEGK KKGGEGERGAG ADEEKEQSHR PFLMLQARQS
 301 EDHPHRRRRR GLECDGKVNI CCKKQFFVSF KDIGWNDWII APSGYHANYC
 351 EGECPSHIAG TSGSSLSFHS TVINHYRMRG HSPFANLKSC CVPTKLRPMS
 401 MLYVDDGQNI IKKDIONMIV EECGCS

FIG.21

(SEQ ID NO: 20)

Human Inhibin B - β Subunit (α - β B Heterodimer)

1 MDGLPGRALG AACLLLLAAG WLGPFAWGSP TPPPTPAAPP PPPPGSPGG
 51 SQDTCTSCGG FRRPEELGRV DGDFLEAVKR HILSRLQMRG RPNITHAVPK
 101 AAMVTALRKL HAGKVREDGR VEIPHLDGHA SPGADGQERV SEIISFAETD
 151 GLASSRVRLY FFISNEGNQN LFVVQASLWL YLKLLPYVLE KGSRRKVRVK
 201 VYFQEQGHGD RWNMVEKRV D LKRSGWHTFP L TEAIQALFE RGERRLNLDV
 251 QCDSCQELAV VPVFVDPGEE SHRPFVVVQA RLGDSRHRIR KRGLECDGR T
 301 NLCCRQOFFI DFRLIGWNDW I IAPTGYYGN YCEGSCPAYL AGVPGSASSF
 351 HTAVVNQYRM RGLNPGTVNS CCIPTKLSTM SMLYFDDEYN IVKRDVFNMI
 401 VEECGCA

FIG.22

(SEQ ID NO: 21)

Human Activin A (β A Homodimer)

1 MPLLWLRGFL LASCWIIIRS SPTPGSEHGS AAPDCPSCAL AALPKDVPNS
 51 QPEMVEAVKK HILNMLHLKK RPDVTQVPVK AALLNAIRKL HVGKVGNGY
 101 VEIEDDIGRR AEMNELMEQT SEITFAESG TARKTLHFEI SKEGSDLSVV
 151 ERAEVLFLK VPKANRTRTK VTIRLFQQQK HPQGS LDTGE EAEVGLKGE
 201 RSELLLSEKV VDARKSTWHV FVSSSIQRL LDQKSSLDV RIACEQCQES
 251 GASLVLLGKK KKKEEGEGK KGGGEGGAG ADEEKEQSHR PFLMLQARQS
 301 EDHPHRRRRR GLECDGKVN I CCKKQFFVSF KDIGWNDWII APSGYHANYC
 351 EGECPSHIAG TSGSSLSFHS TVINHYMRMG HSPFANLKSC CVPTKLRPMS
 401 MLYYDDGQNI IKKDIONMIV EECGCS

FIG.23

(SEQ ID NO: 22)

Human Activin B (β B Homodimer)

1 MDGLPGRALG AACLLLLAAG WLGP~~EANGSP~~ TPPPTPAAPP P~~PPPP~~PGSPGG
 51 SQD~~CT~~CTSCGG FRRPEELGRV DGDFLEAVKR HILSRLQMRG RPNITHAVPK
 101 AAMVTALRKL HAGKVREDGR VEIPHL~~DGHA~~ SPGADGQERV SEIISFAETD
 151 GLASSRVRLY FFISNEGNQN LFVVQASLWL YLKLLPYVLE KGSRRKVRVK
 201 VYFQEQGHGD RWNMVEKRVD LKRS~~GWHTFP~~ LTEAIQALFE RGERRLNLDV
 251 QCDS~~CQELAV~~ VPFVDPGEE SHRP~~FVVVQA~~ RLGD~~SRHRIR~~ KRGLECDGRT
 301 NLCCRQQFFI DFRLIGW~~NDW~~ IIAPTGYYGN YCEGSCPAYL AGVPGSASSF
 351 HTAVVNQYRM RGLNPGTVNS CCIPT~~KLSTM~~ SMLYFDDEYN IVKRDVPMI
 401 VEECGCA

FIG.24

(SEQ ID NO: 23)

Human Müllerian Inhibitory Substance (MIS)

1 MRDLPLTSLA LVL~~SAL~~GALL GTEALRAEEP AVGTSLG~~LIFR~~ EDLDWPPGIP
 51 QEPLCLVALG GDSNGSSSPL RVVGALSAYE QAF~~LGA~~VQRA RWGPRDLATF
 101 GVCNTGDRQA ALPSL~~RRLGA~~ WLRDPGGQRL VVLHLEEV~~TV~~ EPTPSLR~~FQE~~
 151 PPPGGAGPPE LALLVL~~YPGP~~ GPEVTVTRAG LPGAQSLCPS RDRTRYLV~~LAV~~
 201 DRPAGAWRGS GLALTLQPRG EDSRLSTARL QALLFGDDHR CFTMT~~PALL~~
 251 LLPRSEPA~~PL~~ PAHGQLDTVP FPPPRPSAEL EESPPSADPF LETLTRLV~~RA~~
 301 LRVPPARASA PRLALDPDAL AGFPQGLVNL SDPAALERLL DGEEPL~~LLLL~~
 351 RPTAATTGDP APLHDPTSAP WATALARRVA AELQAA~~AE~~L RSLPGL~~PPAT~~
 401 APLLARLLAL CPGGPGGLGD PLRALLLKA LQGLRV~~EW~~RG RDRPG~~RG~~RAQ
 451 RSAGATAADG PCAL~~RELSVD~~ LRAERSVLIP ETYQANNCQG VCGWPQSDRN
 501 PRYGNHVLL LKMQARGAAL ARPPCCVFTA YAGKLLISLS EERISAHHV
 551 NMVATECGCR

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FIG.25

(SEQ ID NO: 24)

Human Bone Morphogenic Protein (BMP)-2

1 MVAGTRCLLA LLLPQVLLGG AAGLVPELGR RKFAAASSGR PSSQPSDEVL
51 SEFELRLLSM FGLKQRPTPS RDAVVPYML DLYRRHSGQP GSPAPDHRLE
101 RAASRANTVR SFHHEESLEE LFETSGKTTR RFFFNLSIP TEEFITSDEL
151 QVFREMQDA LGNNSSFHHR INIVEIKPA TANSKFPVTR LLDTRLVNQN
201 ASRWESFDVT PAVMRWTAQG HANHGFWVEV AHLEEKQGVG KRHVIRISRL
251 HQDEHSWSQI RPLLVTFGHD GKGHPLHKRE KRQAKHKQK RLKSSCKRHP
301 LYVDFSDVGV NDWIVAPPGY HAFYCHGECF FPLADHLNST NHAIVQTLVN
351 SVNSKIPKAC CVPTELSAIS MLYLDENEKV VLKYNQDMV EGCGR

FIG.26

(SEQ ID NO: 25)

Human Bone Morphogenic Protein (BMP)-3

1 MAGASRLFL WLGCFCVSLA QGERPKPPFP ELRKAVPGDR TAGGGPDSSEL
51 QPQDKVSEHM LRLYDRYSTV QAARTPGSLG GGSQPWRPRL LREGNTVRSF
101 RAAAAETLER KGLYIFNLTS LTKSENILSA TLYFCIGELG NISLSCPVSF
151 GCSHHAQRKH IQIDLSAWTL KFSRNQSOLL GHLSVDMAKS HRDIMSWLSK
201 DITQFLRKAK ENEEFILGFN ITSNGRQLPK RRLFPPEPYI LUYANDAAIS
251 EPESVVSLLQ GHRNFTGTG PKWDHIRAA LSIERRKKRS TGVLLPLQNN
301 ELPGAIEYQYK KDEVWEERKP YKTLQAQAPK KSKNKKKQK GPHRKSQTLQ
351 FDEQTLKKAR RKQWIEPRNC ARRYLKVDFA DIGWSEWIS PKSFDAYYCS
401 GACQFPMPKS LKPSNHATIQ SIVRAVGVPV GIPEPCCVPE KMSLSILFP
451 DENKNVVLKV YPNMTVESCA CR

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FIG.27

(SEQ ID NO: 26)

Human Bone Morphogenic Protein (BMP)-3b

1 MAHVPARTSP GPGPQLLLLL LPLFLLLLRD VAGSHRAPAW SALPAAADGL
51 QGDRDLQRHP GDAAATLGPS AQDMVAVMHM RLYEKYSRQG ARPGGGNTVR
101 SFRARLEVVD QKAVYFFNLT SMQDSEMILT ATFHFYSEPP RWPRALEVLC
151 KPRAKNASGR PLPLGPPTRQ HLLFRSLSQN TATQGLLRGA MALAPPFRGL
201 WQAKDISPIV KAARRDGELL LSAQLDSEER DPGVPRPSPY APYILVYAND
251 LAISEPNSVA VTLQRYDFFP AGDPEPRAAP NNSADPEVRR AAQATGFLQD
301 NELPGLDERP PRAHAQHFKH HQLWPSPFRA LKPRPGRKDR RKKQGQEVFMA
351 ASQVLDIFEK TMQKARRKQW DEPRVCSRRY LKVFADIGW NEWIISPKSF
401 DAYYCAGACE FPMPIKIVRPS NHATIQSIVR AVGIIPGIPE PCCVPDKMNS
451 LGVFLDENR NVVLKVYENM SVDTCACR

FIG.28

(SEQ ID NO: 27)

Human Bone Morphogenic Protein (BMP)-4

1 MIPGNRMLMV VLLCQVLLGG ASHASLIPET GKKKVAEIQG HAGGRSGQS
51 HELLEDFEAT LLQMFGLRRL PQPSKSAVIP DYMRDLYRLQ SGEEEEQIH
101 STGLEYPERP ASRANTVRSF HHEEHLENIP GTSENSAPFR LFNLSIPEN
151 EAISSAELRL FREQVDQGPD WERGFHRINI YEVMKPPAEV VPGLHITRLL
201 DTRLVHHNVT RWETFDVSPA VLRWTREKQP NYGLAIEVTH LHQTRTHQGG
251 HVRISRSLPQ GSGNWAQLRP LLVTFGHGDR GHALTRERRA KRSPKHHSQR
301 ARKKKNKCR HSLYVDFSDV GWNDWIVAPP GYQAFYCHGD CPFPLADHLN
351 STNHAIVQTL VNSVNSIPK ACCVPTLSA ISMLYLEYD KVVLKNQOEM
401 VVEGCGCR

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FIG.29

(SEQ ID NO: 28)

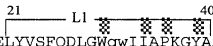
Human Bone Morphogenetic Protein (BMP)-5 Precursor

1 MHLTVFLKLG IVGFLWSCNV LVGYAKGGLG DNVHSSFIY RRLNHERRE
51 IQREILSILG LPHRPRPFSP GKQASSAPLF MLDLYNAMTN EENPEESEYS
101 VRASLAEETR GARKGYPASP NGYPRRIQLS RTTPLTTQSP PLASLHDTNF
151 LNDADMVMSF VNLVERDKDF SHQRRHYKEF RFDLTQIPHG EAVTAAEFRI
201 YKDRSNNRFE NETIKISIQ IIKEYTNRDA DLFLDTRKA QALDVGWLVF
251 DITVTSNHVW INPQNNLGLQ LCAETGDGRS INVKSAGLVG RQGFQSKQFP
301 MVAFFKASEV LLRSVRAANK RKNQNRNKSS SHQDSSRMSS VGDYNTSEQK
351 QACKKHELYV SFRDLGWQDW IIAPEGYAAF YCDGECSPFL NAHMNATNHA
401 IVQTLVHLMF PDHVPKPCA PTKLNAISVL YFDDSSNVIL KKYRNMVVR
451 CGCH

FIG.30

(SEQ ID NO: 29)

Human Bone Morphogenetic Protein (BMP)-6/Vgrl

1 SSASDYNSSSELKTACRKHELYVSFQDLGW²¹ L1  ⁴⁰ IAPKGYAANYCDGECSPF
51 LNAhtNHAIVQTLVHLMNPEYVPKCCAPTKLNAISVL⁸¹ YFDDNSNVikKY
102
101 RNMVVRACGCH

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FIG.31

(SEQ ID NO: 30)

Human Bone Morphogenic Protein (BMP)-7/Osteogenic Protein (OP)-1

1 ANVAENSSSDQRQACKKHELYVSFRDLGWQWIIAPEGYAAYYCEGECAPF

51 LNSATNHAIVQTLVHFINPETVPKPCCAPTQLNAISVLVYFDDSSNVIKKY

101 RNMVVRACGCH

Diagram illustrating the sequence of Human Bone Morphogenic Protein (BMP)-7/Osteogenic Protein (OP)-1. The sequence is shown in three lines, with residue numbers 1, 51, and 101 indicated. A domain structure is shown above the sequence, with L1 spanning residues 21 to 40, L3 spanning residues 81 to 102, and a domain spanning residues 102 to 101.

FIG.32

(SEQ ID NO: 31)

Human Bone Morphogenic Protein (BMP)-8/Human Osteogenic Protein (OP)-2

1 MTALPGPLWL LGLALCALGG GGPGLRPPPG CPQRRLGARE RRDVQREILA

51 VLGLPGRPRP RAPPAASRLP ASAPLFMLDL YHAMAGDDDE DGAPAERRLG

101 RADLVMSFVN MVERDRALGH QEPHWKEFRF DLTQIPAGEA VTAAEFRIYK

151 VPSIHLNRT LHVSMFQVVQ EQSNRESDLF FLDLQTLRAG DEGWLVDVT

201 AASDCWLLKR HKDLGLRLYV ETEDGHSVDP GLAGLLGQRA PRSQQPFVVT

251 FFRASPSPIR TPRAVRPLRR RQPKKSNELP QANRLPGIFD DVHGHSHGRQV

301 CRRHELYVSF QDLGWLDWVI APOGYSAYYC EGECSPFLDS CMNATNHAIL

351 QSLVHLMKPN AVPKACCAPT KLSATSVLYY DSSNNVILRK HENMVVKACG

401 CH

Diagram illustrating the sequence of Human Bone Morphogenic Protein (BMP)-8/Human Osteogenic Protein (OP)-2. The sequence is shown in eight lines, with residue numbers 1, 51, 101, 151, 201, 251, 301, 351, and 401 indicated. The sequence is: MTALPGPLWL LGLALCALGG GGPGLRPPPG CPQRRLGARE RRDVQREILA, VLGLPGRPRP RAPPAASRLP ASAPLFMLDL YHAMAGDDDE DGAPAERRLG, RADLVMSFVN MVERDRALGH QEPHWKEFRF DLTQIPAGEA VTAAEFRIYK, VPSIHLNRT LHVSMFQVVQ EQSNRESDLF FLDLQTLRAG DEGWLVDVT, AASDCWLLKR HKDLGLRLYV ETEDGHSVDP GLAGLLGQRA PRSQQPFVVT, FFRASPSPIR TPRAVRPLRR RQPKKSNELP QANRLPGIFD DVHGHSHGRQV, CRRHELYVSF QDLGWLDWVI APOGYSAYYC EGECSPFLDS CMNATNHAIL, QSLVHLMKPN AVPKACCAPT KLSATSVLYY DSSNNVILRK HENMVVKACG, CH.

FIG.33

(SEQ ID NO: 32)

Human Bone Morphogenic Protein (BMP)-10

1 MGSVLVLTCA LFCLAAAYLVS GSPIMNLEQS PLEEDMSLFG DVFSEQDGVD
 51 FNTLLQSMKD EFLKTLNLSD IPTQDSAKVD PPEYMLELYN KFATDRTSMF
 101 SANIIRSFKN EDLFSQPVSF NGLRKYPLLF NVSIPHHEEV IMAELRLTYL
 151 VQRDRMIYDG VDRKITIFEV LESKGDNEGE RNMLVLVSGE IYGTNSEWET
 201 FDVTDAIRRW QKSGSSTHQL EVHIESKHDE AEDASSGRLE IDTSAQNKHN
 251 PLLIVFSDQ SSDKERKEEL NEMISHEQLF ELDNLGLDSF SSGPGEEALL
 301 QMRNIIYDS TARIRRNAKG NYCKRTPLYI DFKEIGWDSW IIAPPGYEAY
 351 ECRGVCNYPL AEHLTPTKHA IIQALVHLKN SQKASKACCV PTKLEPISIL
 401 YLDKGVVITYK FKYEGMAVSE CGCR

FIG.34

(SEQ ID NO: 33)

Human Bone Morphogenic Protein (BMP)-11

1 MVLAAPLLG FLLLALELRP RGEAAEGPAA AAAAAAAAAA AGVGGERSR
 51 PAPSVAPEPD GCFVCVWRQH SRELRLSEIK SQILSKLRLE EAPNISREVV
 101 KQLLPKAPPL QQILDLDHDFQ GDALQPEDFL EDEYHATTE TVISMAQETD
 151 PAVQTDGSPL CCHFHFSPKV MFTKVLKAQL WVYLRVPRP ATVYLQILRL
 201 KPLTGEFTAG GGGGRRHRIR IRSKIELHS RSGHWQSIDF KQVLHSWFRQ
 251 PQSNWGIEN AFDPSTGDLA VTSLGPGAEG LHPFMELRVL ENTKRSRRNL
 301 GLDCDEHSSE SRCCRYLTVD DFEAFGWDI IAPKRYKANY CSGQCEYFMF
 351 QKYPHTHLVQ QANPRGSAGP CCTPTKMSPI NMLYFNDKQQ IIYKIPGMV
 401 VDRCGCS

FIG.35

(SEQ ID NO: 34)

I. HUMAN BONE MORPHOGENIC PROTEIN (BMP)-15

1 MVLLSILRIL FLCELVLFE HRAQMAEGGQ SFIALLAEP TLPIEEMLE
 51 ESPGEQPRKP RLLGHSRLYM LELYRSADS HGHPRENRTI GATMVLVLP
 101 LTSVARPHRG TWHIQILGFP LRPNRGLYQL VRATVVYRHH LQLTRFNLSC
 151 HVEPWVQKNP TNHFPSEGD SSKPSLMSNA WKEMDITQLV QQRFWNNKGH
 201 RILRLRFMCQ QQKDSGGLEL WHGTSSLDIA FLLLYFNTH KSIRKAKFLP
 251 RGMEEFMERE SLRRLRTRQAD GISAEVTASS SKHSGPENNO CSLHPPQISF
 301 RQLGWDHWII APPFYTPNYC KGTCLRLVRD GLNSPNHAI QNLINQLVDQ
 351 SVPRPSCVPY KYVPISVLM EANGSILYKE YEGMIAESCT CR

FIG.36

(SEQ ID NO: 35)

Human Norrie Disease Protein (NDP)**[Norrin]**

1 MRKHVLAASF SMLSLLVIMG DTDSDKTDSSF IMDSPPRRCM RHHYVDSISH
 51 PLYKCSSKMV LLARCEGHCS QASRSEPLVS FSTVLKQPFR SSCHCCRPQT
 101 SKLKALRLRC SGGMRLTATY RYILSCHCEE CNS

FIG.37

(SEQ ID NO: 36)

Human Growth Differentiation Factor (GDF)-1

1 MPPPPQQGPCG HHHLLLLLALL LPSPPLTRAP VPPGPAAALL QALGLRDEPQ
 51 GAPRLRFVPP VMWRLFRRRD PQETRSGSRR TSPGVTLQPC HVEELGVAGN
 101 IVRHIPDRGA PTRASEPVSA AGHCPEWTVV FDLSAVEPAE RPSRARLELR
 151 FAAAAAAPE GGWELSVQA GQGAGADPGP VLLRQLVPAL GPPVRAELLG
 201 AAWARNASWP RSLRLALALR PRAPAACARL AEASLLLVTL DPRLCHPLAR
 251 PRRDAEPVLG GGPGGACRAR ELYVSFREVQ WHRWVIAPRG FLANYCQGQC
 301 ALPVALSGSG GPPALNHAUL RALMHAAAPG AADLPCCVPA RLSPISVLFF
 351 DNSDNVVLRLQ YEDMVVDECG CR

FIG.38

(SEQ ID NO: 37)

Human Growth Differentiation Factor (GDF)-5 Precursor

1 MRLPKLLTFL LWYLANLDLE FICTVLGAPD LGQRPPQGSRP GLAKAEAKER
 51 PPLARNVFRP GGHSYGGGAT NANARAKGGT GQTGGTLQPK KDEPKKLPPR
 101 PGGPEPKPGH PPQTRQATAR TVTPKGQLPG GKAPPKAGSV PSSFLLKKAR
 151 EPGPPREPKE PFRPPPIPTH EYMLSLYRTL SDADRKGNS SVKLEAGLAN
 201 TITSFIDKGQ DDRGFVVRKQ RYVFDISALE KDGLLGAELR ILRKKPSDTA
 251 KPAVPRSRRA AQLKLSSCPS GRQPAALLDV RSVPGLDGSG WEVFDIWKLF
 301 RNFKNQAQLC LELEAWERGR TVDLRGLGPD RAARQVHEKA LFLVFGRTKK
 351 RDLFFNEIKA RSGQDDKTVY EYLFSQRRKR RAPSATRQK RPSKNLKARC
 401 SRKALHVNFK DMGWDDWIIA FLEYEAFHCE GLCEFPLRSH LEPTNHAVID
 451 TLMNSMDPES TPPTCCVPTR LSPLSILFID SANNVYKQY EDMVVEGCG
 501 R

FIG.39

(SEQ ID NO: 38)

**Human Growth Differentiation Factor (GDF)-8
[Myostatin]**

1 MQKLQLCVYI YLFMLIVAGP VDLNENSEQK ENVEKEGLCN ACTWRQNTKS
 51 SRIEAIKI QI LSKLRLETAP NISKDVIRQL LPKAPPLREL IDQYDVQRDD
 101 SSDGSLEDDDD YHATTETIIT MPTESDFLMQ VDGKPKCCFF KFSSKIQYNK
 151 VVKAQLWIYL REVETPTTVF VQILRLIKPM KDGTRYTGIR SLKLDMPNGT
 201 GIWQSIDVKT VLQNLWKQPE SNLGIEIKAL DENGHD LAVT FPGPGEDGLN
 251 PFLEVKVTDI PKRSRRDFGL DCEHSTESR CCRYPLTVDF EAPGWDWIIA
 301 PKRYKANYCS GECEFVFLQK YPHTHLVHQA NPRGSAGPCC TPTKMSPINM
 351 LYFNGKEQII YGKIPAMVVD RCGCS

FIG.40

(SEQ ID NO: 39)

Human Growth Differentiation Factor (GDF)-9

1 MARPNKFLW FCCFAWLCFP ISLGSQASGG EAQIAASAE ESGAMPWSLL
 51 QHIDERDRAG LLPALFKVLS VGRGGS PRLQ PDSRALHYMK KLYKTYATKE
 101 GIPKSNRSHL YNTVRLFTPC TRHKQAPGDQ VTGILPSVEL LPNLDRITTV
 151 EHLKSVLLY NINNSVSFSS AVKVCNLM I KEPKSSSRTL GRAPYSFTFN
 201 SQFEFGKKHK WIQIDVTSLL QPLVASNKRS IHMSINFTCM KDQLEHPSAQ
 251 NGLFNMTLVS PSLILYLNDT SAQAYHSWYS LHYKRRPSQG PDQERSLSAY
 301 PVGEEAAEDG RSSHHRHRRG QETVSSELKK PLGPASFNL S EYFRQFLLPQ
 351 NECELHDFRL SFSQKWDNW IVAPHRYNPR YCKGDCPRAV GHRYGSPVHT
 401 MVQNIYIEKL DSSVPRPSCV PAKYSPLSVL TIEPDGSIAY KEYEDMIATK
 451 CTR

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FIG. 41

(SEQ ID NO: 40)

Human Artemin (GDNF)

1 MPGLISARGQ PLLEVLPQA HLGALFLPEA PLGLSAQPAL WPTLAALALL
51 SSVAEASLGS APRSPAPREG PPPVLASPAG HLPGGRTARW CSGRRARRPP
101 QPSRPAPPPP APPSALPRGG RAAAGGPGS RARAAGARGC RLRSQLVPEV
151 ALGLGHRSD LVRFRFCGS CRRARSPHDL SLASLLGAGA LRPPPGSRPV
201 SQPCCRPTRY EAVSFMDVNS TWRTVDRLSA TACGCLG

FIG. 42

(SEQ ID NO: 41)

Human Glial Cell Derived Factor (GDNF)

[Persephin]

1 MAVGKFLGGS LLLLSLQLGQ GWGPDARGVP VADGEFSSEQ VAKAGGTWLG
51 THRPLARLRR ALSGPCQLWS LTLSVAELGL GYASEEKVIF RYCAGSCPRG
101 ARTQHGLALA RLQGQGRAHG GPCCRPTRYT DVAFLDDRHR WORLEQLSAA
151 ACGCGG